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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,792

07/20/2006

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128727

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25944 7590 08/06/2009  
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EXAMINER

HAN, KWANG S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,792	<b>Applicant(s)</b> YOSHIDA, NAOHIRO	
	<b>Examiner</b> Kwang Han	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-23 is/are pending in the application.
- 4a) Of the above claim(s) 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/20/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**FUEL CELL SYSTEM AND METHOD FOR DRIVING SAME**

Examiner: K. Han    SN: 10/586,792    Art Unit: 1795    August 6, 2009

***Election/Restrictions***

1.     Applicant's election with traverse of Group II, Claims 9-22 in the reply and amendment filed on June 8, 2009 is acknowledged. The traversal is on the ground(s) that Groups I-III share common features other than the feature identified by the restriction requirement. This is not found persuasive because Applicant did not distinctly and specifically point out common features which would maintain unity between the groups and supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Because the special technical feature is taught in the art as shown in the restriction requirement a lack of unity between the groups exist and is maintained.

The requirement is still deemed proper and is therefore made FINAL.

2.     Claims 8 and 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on June 8, 2009.

***Specification***

3.     The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, It is indefinite and unclear as to how a regulating means can be varied "monotonously" as this term does not specifically define how this variation is to occur. For the purposes of examination any variation of the quantity of pressure regulation will be considered monotonous.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claim 9-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (US 2003/0203258) in view of Iio et al. (US 6663990).

Regarding claims 9, 15, 18 and 19, Yang discloses a fuel cell system comprised of the following:

- a fuel cell for generating power by circulating a fuel gas [Abstract],
- hydrogen storage (fuel gas supply source) for supply hydrogen,
- a hydrogen supplying pipeline [0025],
- a pressure regulating device (220, pressure regulating means) between the hydrogen storage and pipeline, and
- a control circuit (244, control means) for controlling the pressure regulating device in response to pressure signals [0025].

Yang is silent towards a drive means provided in the circulation route to circulate the fuel gas.

Iio teaches a fuel cell system which provides a control unit (5, means for determining a drive characteristic/means for determining a pressure regulation quantity) that controls a hydrogen draw pump (12) in combination with a control valve (11) located in a hydrogen passage (Figure 9) to regulate the flow rate and pressure of the hydrogen gas in response to output signals (4:12-7:16) to provide moisture purge within a fuel cell stack [Abstract]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a hydrogen draw pump in combination with valves in

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the fuel cell of Yang because Iio teaches these components can provide regulation of flow rate and pressure within a hydrogen gas passage to provide moisture purge within a fuel cell stack.

The limitations have not been interpreted under 35 U.S.C. 112, 6th paragraph because the limitations are not in means-plus-function form.

Regarding claims 10-14, 16-17, and 20-22, the limitations which are directed to a manner of operating the disclosed device (e.g. “raises the pressure of the fuel gas”, “varied correspondingly to a variation”, “reduced respect to that of a region”, “maintained equal to or less than a constant”, etc.), it is noted that neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, it has been held that process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states “Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.”

### ***Contact/Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./  
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/  
Supervisory Patent Examiner, Art Unit 1795